

IN THE SPECIFICATION:

After the title of the invention and before the paragraph beginning on page 1, line 5, please insert:

BACKGROUND OF THE INVENTION

Field of the Invention:

Page 1, between lines 12 and 14, please insert:

Description of Related Art:

Page 8, between lines 6 and 7, please insert:

SUMMARY OF THE INVENTION

Page 13, between lines 2 and 4, please insert:

BRIEF DESCRIPTION OF THE DRAWINGS

Page 13, between lines 13 and 14, please insert:

Figure 4 is a perspective view of the mask stage of a lithographic apparatus, showing the position measuring system according to a second embodiment of the invention;

Figure 5 is cross-sectional view of an apparatus used to calibrate a lithographic apparatus, according to an embodiment of the invention; and

Figure 6 depicts a lithographic projection apparatus according to an embodiment of the invention.

Page 13, between lines 14 and 18, please insert:

DETAILED DESCRIPTION OF SEVERAL EMBODIMENTS OF THE
INVENTION

Please replace the paragraph beginning on page 8, line 18, with the following amended paragraph:

a ~~isplacement~~ displacement measuring system for measuring the position of a moveable object comprising one of said support ~~structure~~ structure and said substrate table in at least two degrees of freedom, said displacement measuring system comprising at least one grid grating mounted on said moveable object and at least one sensor head for measuring displacements of said grid grating in two degrees of freedom.

Please replace the paragraph beginning on page 13, line 21, with the following amended paragraph:

a radiation system including a beam expander Ex, and an illumination system IL, for supplying a projection beam PB of radiation (e.g. UV radiation), which in this particular case also comprises a radiation source LA;

Please replace the paragraph beginning on page 13, line 24, with the following amended paragraph:

a first object table (mask table) MT provided with a mask holder for holding a mask MA (e.g. a reticle), and connected to first positioning means for accurately positioning the mask with respect to ~~item~~ a projection system PL;

Please replace the paragraph beginning on page 14, line 11, with the following amended paragraph:

The radiation source LA (e.g. an excimer laser) produces a beam of radiation. This beam is fed into an illumination system (illuminator) IL, either directly or after having traversed conditioning means, such as a beam expander Ex, for example. The illumination system (illuminator) IL may comprise adjusting means AM for setting the outer and/or inner radial extent (commonly referred to as σ -outer and σ -inner, respectively) of the intensity distribution in the beam. In addition, it will generally comprise various other components, such as an integrator IN and a condenser CO. In this way, the projection beam PB impinging on the mask MA has a desired uniformity and intensity distribution in its cross-section.

Please replace the paragraph beginning on page 14, line 20, with the following amended paragraph:

It should be noted with regard to Figure 1 that the radiation source LA may be within the housing of the lithographic projection apparatus (as is often the case when the source LA is a mercury lamp, for example), but that it may also be remote from the lithographic

projection apparatus, the radiation beam which it produces being led into the apparatus (e.g. with the aid of suitable directing mirrors); this latter scenario is often the case when the source LA is an excimer laser. The current invention and Claims encompass both of these scenarios.

Please replace the paragraph beginning on page 14, line 27, with the following amended paragraph:

The projection beam PB subsequently intercepts the mask MA, which is held on a mask table MT. Having traversed the mask MA, the projection beam PB passes through the lens PL, which focuses the projection beam PB onto a target portion C of the substrate W. With the aid of the second positioning means (and interferometric measuring means IF), the substrate table WT can be moved accurately, e.g. so as to position different target portions C in the path of the projection beam PB. Similarly, the first positioning means can be used to accurately position the mask MA with respect to the path of the projection beam PB, e.g. after mechanical retrieval of the mask MA from a mask library, or during a scan. In general, movement of the object tables MT, WT will be realized with the aid of a long-stroke module (course positioning) and a short-stroke module (fine positioning), which are not explicitly depicted in Figure 1. However, in the case of a wafer stepper (as opposed to a step-and-scan apparatus) the mask table MT may just be connected to a short stroke actuator, or may be fixed.

Please replace the paragraph beginning on page 15, line 13, with the following amended paragraph:

1. In step mode, the mask table MT is kept essentially stationary, and an entire mask image is projected in one go (i.e. a single "flash") onto a target portion C. The substrate table WT is then shifted in the x and/or y directions so that a different target portion C can be irradiated by the projection beam PB;